LArSoft minutes, 4-May-2011. -- Eric Church

LArSoft minutes appear at https://cdcvs.fnal.gov/redmine/projects/activity/larsoftsvn. (The location presumably at which you found these!) For further details of matters reported here drill down into the wiki, etc, at that redmine site. Everyone is welcome to attend the bi-weekly meetings. Next meeting will be 18-May-2011. It will be back in the Racetrack, 7X0.

There are pdfs on the documents link of the redmine site for today by Tingjun, Adam. Click Documents, sort by Date.

System Administrivia: While we've had a Development/Frozen (Frozen also equals Production) release paradigm in place for a while, we thought today was a good time to remind people of it. Brian pointed out that there are generally two reasons for freezing a release. Namely, data classes change or some stability is needed for analysis. The first cause should no longer be a motivator for freezing a release with ART's class versioning #, which code Brian has svn ci'd. So, one can read old classes from data files with a new release or new classes with an old release (or the other two standard permutations). Check the classes_def.xml files in all 4 locations. But, still the second reason for working on a Frozen/Prod release requires accommodation. There will be more details on the wiki. A new Prod release will come out on the timescale of once a month, as a certain threshold of accumulation of new features are found/ bugs are fixed. The model is that of any software shop. We hope everyone who can will work in Dev and ci freely, as always. If you need to work in Prod, feel free. Be sure your SRT_PUBLIC_CONTEXT is set to the directory /grid/fermiapp/lbne/lar/code/larsoft/releases/ S201X.YY.ZZ. And remember we want your contributions, so take any of your Prod code fixes and breakthroughs over to Dev, test 'em there, and svn ci there. The other thing that must be kept straight vis-a-vis the Dev/Prod model is the management of MC/Data files created under which release. We will leave this to collaboration management.

Mitch and Eric will put MicroBooNE and ArgoNeuT specific analysis code into separate repositories on separate-from-LArSoft redmine sites. Then nightly builds will be done to produce libraries from those collaboration specific repositories, over which the collaboration, not LArSoft, has access. LArSoft already does this with 3 other packages from a cvs repository. Stay tuned. There will be no cut-over to these libraries from the current T962 directory until all is tested. An announcement will then go out and we'll svn rm T962. This will be almost transparent to the lay ArgoNEut collaborator.

It's been suggested that the wiki contain a detailed set of instructions for walking a new LArSofter through a few exercises to help get that person going in LArSoft. At least one person thought that was a good idea. We suspect others will too. It's thus on Eric's to-do list.

Brian took DriftElectrons and obsolesced it, putting its functionality into LArG4. The notion was suggested by Ben Jones's work, documented in this space last meeting and by Bruce a while back. Brian saves 1 sec from the former 5 sec of wall clock time running LArG4+DriftElectrons. So, don't run DriftElectrons anymore. Modern fcl files reflect this change. We'll keep the LArVoxel objects around, now coming out of LArG4, just for a while, then we'll probably stop writing those too. The hope is to gain both disk space and IO time. Also, Brian with Rob Hatcher, has made GENIE slightly leaner as it reads spline files only for the relevant detector materials. GENIE remains a memory pig, but is hopefully better.

Tingjun showed work on a 3dVtx module he created. He ran GENIE MC neutrino evts and looks for two clusters in any given plane (in 2-plane ArgoNeuT for now only) and pairs existing 2D HarrisVertices by proximity (or in the case of Neutral Current evts with just one cluster per plane uses the most upstream HarrisVtx from that cluster). He then uses the by-now standard formula (originally from Track3Dreco) to project to a 3D vtx. NC evts give an 89% 3D vtx finding efficiency; all other neutrino evts give 95+% efficiency. Comparing true-recon y,z resolutions gives very nice 0+/- ~2.5 cm peaks, and for x the resolution is 2+/-~2.5cm. The x shift is understood to be coming from the deconvolution in FFTHitFinder, Mitch says.

Adam showed ongoing Cosmic Ray MC work in uBooNE. This is the CRY package, which hands a bunch (10?30?) primaries to LArG4 and rain down over some large area, much bigger than the detector. Hence, Adam now is using huge memory such that condor remains an impossibility, and none of his primaries even get into the TPC. He's thus experimenting with the new LArStackingAction code heretofore purposed for an underground LAr34 (nee' LAr20) at DUSEL. Adam and Brian have put in code to enforce requirements to only follow primaries pointing at the detector, which is helping some amount. Adam'll keep us posted on progress.

See ya at the next LArSoft mtg in the Racetrack, 7th floor on 5/18, Wed, 9am CST.

Details for the next meeting:

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>>> video: 85LARSW
>>> phone: 510 883 7860 (ID 85LARSW)
>>> fnal location: Racetrack, 7th floor x-over
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